

What is claimed is:

1. A distinctive optical fiber comprising:

an optical fiber core;

5 a colored layer coated over the optical fiber core; and

a plurality of distinctive layers, which are composed of ink, disposed intermittently in the longitudinal direction of the optical fiber core in between the optical fiber core and the colored layer.

10 2. The distinctive optical fiber described in claim 1, wherein the thickness of the distinctive layers is larger than or equal to $0.5\ \mu\text{m}$ and smaller than or equal to $2.5\ \mu\text{m}$, and the thickness of the colored layer is larger than or equal to $2\ \mu\text{m}$ and smaller than or equal to $10\ \mu\text{m}$.

15 3. The distinctive optical fiber described in claim 2, wherein the length of the distinctive layers is larger than or equal to 1mm and smaller than or equal to 15mm .

4. The distinctive optical fiber described in claim 3, wherein the interval of the distinctive layers is larger than or equal to 1mm and smaller than or equal to $200\ \text{mm}$.

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5. The distinctive optical fiber described in claim 4, wherein the occupied ratio of the total length of the distinctive layers to the length of the distinctive optical fiber is less than or equal to $20\ \%$.

25 6. The distinctive optical fiber described in claim 5, wherein the distinctive layers are formed from the fine drops of ink having a major diameter larger than or

equal to 100 μm and smaller than or equal to 400 μm .

7. The distinctive optical fiber described in claim 1, wherein the occupied ratio of the total length of the distinctive layers to the length of the distinctive optical fiber core is less than or equal to 20 %.

8. The distinctive optical fiber described in claim 7, wherein the length of the distinctive layers is larger than or equal to 1mm and smaller than or equal to 15mm.

9. The distinctive optical fiber described in claim 1, wherein the thickness of the colored layer is larger than or equal to 2 μm and smaller than or equal to 10 μm .

10. The distinctive optical fiber described in claim 9, wherein the distinctive layers are formed from the fine drops of ink having a major diameter larger than or equal to 100 μm and smaller than or equal to 400 μm .

11. An optical fiber cable including many distinctive optical fibers comprising:
an optical fiber core;
a colored layer coated over the optical fiber core; and
a plurality of distinctive layers, which are composed of ink, disposed intermittently in the longitudinal direction of the optical fiber core in between the optical fiber core and the colored layer.